

WEST Search History

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DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR

L7	L5 and l3	2	L7
L6	L5 and l1	2	L6
L5	artz.in. or lombardi.in. or vaidyanathan.in.	1215	L5
L4	artz.in. or lombardi.in. vaidyanathan.in.	1215	L4
L3	composite\$ and (polyvinylpyrrolinone or (poly adj vinyl adj pyrrolinone) or (polyvinyl adj pyrrolinone))	3	L3
L2	L1 and (microsphere\$ or fiber\$ or graphite\$ or coke or dispersant\$ or compatibilizer\$ or ceramic\$)	2	L2
L1	composite\$ and (polyvinylpyrrolinone or (poly adj vinyl adj pyrrolinone))	2	L1

END OF SEARCH HISTORY

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L3: Entry 3 of 3

File: DWPI

Nov 21, 2002

DERWENT-ACC-NO: 2002-740788

DERWENT-WEEK: 200301

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TITLE: Material system for preparing mold core for use in the fabrication of composite parts comprises matrix composition for forming the mold core, and finishing composition for smoothing outer surface of the mold core

INVENTOR: ARTZ, G J; LOMBARDI, J L ; VAIDYANATHAN, K R ; WALISH, J

PATENT-ASSIGNEE:

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ARTZ G J

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ADCEN

PRIORITY-DATA: 2002US-0092843 (March 6, 2002), 2001US-274074P (March 7, 2001)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20020173575 A1	November 21, 2002		000	C08K003/34
WO 200272328 A1	September 19, 2002	E	022	B28B001/26

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
US20020173575A1	March 7, 2001	2001US-274074P	Provisional
US20020173575A1	March 6, 2002	2002US-0092843	
WO 200272328A1	March 7, 2002	2002WO-US06982	

INT-CL (IPC): B28 B 1/26; C08 J 9/32; C08 K 3/04; C08 K 3/34

ABSTRACTED-PUB-NO: WO 200272328A

BASIC-ABSTRACT:

NOVELTY - Material system for preparing a mold core used in the fabrication of composite parts comprises a matrix composition which comprises a water soluble thermoplastic binder; and a finishing composition (12) for smoothing outer surface of the mold core by covering any undesired surface contours or cracks on the outer surface.

DETAILED DESCRIPTION - Material system for preparing a mold core used in the fabrication of composite parts comprises:

(1) a matrix composition for forming the mold core which comprises a water soluble thermoplastic binder selected from polyvinylpyrrolinone (PVP) and/or copolymers of PVP; and

(2) a finishing composition, for smoothing outer surface of the mold core by covering any undesired surface contours or cracks on the outer surface, comprising a water soluble thermoplastic binder and a hardening compound.

INDEPENDENT CLAIMS are included for:

(a) a method for manufacture of a mold core, which comprises preparing a core composition having a polymer binder including PVP, copolymers of PVP, or their combinations; depositing the composition in a mold form for shaping the mold core; and drying the mold core to remove residual water; and

(b) a composite blend for preparation of tooling materials for fabricating composite parts comprising: polyvinylpyrrolinone (PVP) and/or copolymers of PVP; and an additive to enhance the functional properties of the blend comprising polymeric microbeads, ceramic microbeads, metallic microbeads, hardening compounds, talc, metal particles, polyester fibers, polypropylene fibers, graphite particles, coke particles, compatibilizers and/or dispersants.

USE - The material system is used for preparing a mold core (claimed) used in the fabrication of composite parts in e.g. the aerospace industry or military applications. It is used as coring and tooling materials (10) for composite parts.

ADVANTAGE - The inventive material system provides compatible, cost-effective, and environmentally benign coring and tooling materials. It is soluble in water and can easily be washed away from the finished part. It is strong and lightweight, yet capable of withstanding high curing temperatures. The blend of the inventive material is easily tailored to give required properties such as coefficient of thermal expansion.

DESCRIPTION OF DRAWING(S) - The figure is a schematic flow chart illustrating the steps in the manufacture of a composite part.

Tooling material 10

Finishing composition 12

CHOSEN-DRAWING: Dwg.1/2

TITLE-TERMS: MATERIAL SYSTEM PREPARATION MOULD CORE FABRICATE COMPOSITE PART
COMPRISE MATRIX COMPOSITION FORMING MOULD CORE FINISH COMPOSITION SMOOTH OUTER
SURFACE MOULD CORE

DERWENT-CLASS: A14 A88 A95 P64

CPI-CODES: A04-D05A; A12-A02;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1] 018 ; G0635 G0022 D01 D12 D10 D23 D22 D31 D41 D51 D53 D58 D75
D86 F71 ; H0000 ; H0011*R ; H0282 ; H0317 ; S9999 S1616 S1605 Polymer Index [1.2]
018 ; ND01 ; ND04 ; Q9999 Q6791 ; Q9999 Q7943 Q7885 ; Q9999 Q9223 Q9212 ; Q9999
Q9245 Q9212 ; Q9999 Q9438 Polymer Index [1.3] 018 ; B9999 B3521*R B3510 B3372
Polymer Index [1.4] 018 ; R01740 G2335 D00 F20 H* O* 6A ; A999 A475 Polymer Index
[2.1] 018 ; P0839*R F41 D01 D63 ; S9999 S1070*R Polymer Index [2.2] 018 ; R00964
G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58 D83 ; H0000 ; S9999 S1070*R ; P1150 ;
P1343 Polymer Index [2.3] 018 ; ND01 ; ND04 ; Q9999 Q6791 ; Q9999 Q7943 Q7885 ;
Q9999 Q9223 Q9212 ; Q9999 Q9245 Q9212 ; Q9999 Q9438

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Non-CPI Secondary Accession Numbers: N2002-583644